Claims

1. A method for improving the metal effects and further processing criteria as well as the flexibility of resin coated decorative papers, characterised by the application of solutions of alkaline metal salts delaying hardening, during printing with metal effect inks by gravure printing.

2. The method according to claim 1 characterised by the application of a sodium aluminate solution (=$NaAlO_2x0.12Na_2Ox0.3H_2O$) (water or water/extender mixture) in a gravure printing method by a fond cylinder or another adequate method onto printed or non-printed standard base paper.

3. The method according to claim 2 characterised in that sodium aluminate is solved in > 60 °C hot demineralised water (or water in general) in order to produce a mixture in the desired concentration.

4. The method according to claim 3 characterised in that the mixture has a concentration of 10 to 20 %.

5. The method according to one of claims 1 to 3 characterised in that the sodium aluminate has a solid contents of 0.5 up to maximum 5 % related to the complete ready-for-print preparation.

6. The method according to one of claims 1 to 5 characterised in that for the sodium aluminate solution a pH-value of between pH 9 and 14 is adjusted depending on the requirements.

7. The method according to one of claims 1 to 6 characterised in that the sodium aluminate in the ready solution is applied onto the paper by means of a fond cylinder and gravure printing depending on the fond volume and the machine speed.

8. The method according to claim 7 characterised in that an orientation value or a target value of minimum 3 g/m^2 up to maximum 25 g/m^2 wet is observed.

9. The method according to claim 1 characterised in that for effect inks (pearl, silver and irisation inks) in higher concentration (> 5 %) on the respective printed decorative papers, a sodium aluminate solution (water or water/extender mixture) is applied onto the surface of the metallic print by means of gravure printing with a fond cylinder.

10. The method according to claim 9 characterised in that the sodium aluminate is solved in > 60 °C hot demineralised water (or water in general) in order to produce a mixture in the desired concentration.

11. The method according to one of claims 1 and 8 to 10 characterised in that the sodium aluminate has a solid contents of 0.5 up to maximum 5 % related to the complete ready-for-print preparation.

12. The method according to one of claims 1, 8 to 11 characterised in that for the sodium aluminate a pH-value between pH 9 and 14 is adjusted depending on the requirements.

13. The method according to one of claims 1, 8 to 12 characterised in that the sodium aluminate in the ready solution is applied onto the paper by means of a fond cylinder and gravure printing depending on the fond volume and the machine speed.

14. The method according to claim 13 characterised in that an orientation value or a target value of minimum 3 g/m^2 up to maximum 25 g/m^2 wet is observed.

15. The method according to claim 9 characterised in that as pearl pigments compounds in the form of feldspar or silicic acid (silicon dioxide) are used, coated with titanium dioxide wherein the titanium dioxide causes an accelerated hardening of amino plastic resins as a catalyst and the adequately adjusted printed topcoat has a positive effect on the hardening (resin flow) and simultaneously improves pearl effect.

16. The method according to claim 15 characterised in that melamine formaldehyde resins or urea-formaldehyde resins are used as amino plastic resins.